

21



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/694,507	10/24/2000	Toshihiro Sunaga	35.G2665	1070
5514	7590	03/15/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			YE, LIN	
			ART UNIT	PAPER NUMBER
			2612	4
DATE MAILED: 03/15/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/694,507

Applicant(s)

SUNAGA, TOSHIHIRO

Examiner

Lin Ye

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-18 is/are rejected.
- 7) ☒ Claim(s) 4-5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/4/01
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 6-8, 10-11, 13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Okauchi et al. U.S. Patent 5,907,353.

Referring to claim 1, the Okauchi reference discloses in Figures 1 and 3, an imaging unit comprising: an image pickup medium (CCD 25); an optical system (zoom lens 22 and focus lens 23) through which an image of an object is formed on said image pick medium; a reflecting member (variable angle prism 20 and reflection mirror 21) which is disposed at a position on a side of the object nearer than that of said optical system (e.g., the light of object image reflect by reflecting member 20 and 21 in first and then through optical system to CCD 25, See Col. 3, lines 40-52) , and which reflects light from the object so that the light is made incident on said optical system; reflecting member drive means (VAP driving circuit 29) which drives said reflecting member (20); an interface (switches 4-12) for enabling

Art Unit: 2612

communication with an apparatus main body, the apparatus main body (i) having therein said image pickup unit and (ii) generating a signal to control an operation of said image pickup unit (see Col. 4, lines 37-47); and a microcomputer (system control circuit 30) which transmits information on a side of the image pickup unit to said apparatus main body (1) and controls said reflecting member drive means (29) on the basis of the signal received from said apparatus main body, said reflecting member drive means which drives said reflecting member to change an orientation of an image pickup field of said image pickup medium (as shown in Figure 3, when camera is "high-image quality mode", the image pickup field of image pickup medium 25 is changed from area 1 to 4 for obtain four images, see Col. 6, lines 24-35).

Referring to claim 6, the Okauchi reference discloses wherein said optical system has a plurality of optical components, and further comprising a driver (zoom driving circuit 26) which changes relative positions of said plurality of optical components (zoom lenses 22), to perform zooming.

Referring to claim 7, the Okauchi reference discloses further comprising zooming drive (26) means which drives at least one optical component (22) so as to change the relative positions of said plurality of optical components, and wherein said microcomputer (system control circuit 30) controls said zooming drive means on the basis of the signal from said apparatus main body as shown in Figure 1.

Referring to claim 8, the Okauchi reference discloses further comprising a driver (focus driving circuit 23) which moves at least one part of the optical components comprising said optical system to perform focusing as shown in Figure 1.

Art Unit: 2612

Referring to claim 10, the Okauchi reference discloses distance measuring means which measures a distance to the object to be photographed; and focusing drive means which drives a focusing operation, and wherein said microcomputer controls said focusing drive means on the basis of a result measured by said distance measuring means (See Col. 5, lines 58-67).

Referring to claim 11, the Okauchi reference discloses in-focus detecting means (a focus detection circuit 35) which detects an in-focus state of the object to be photographed; and focusing drive means which drives a focusing operation, and wherein said microcomputer controls said focusing drive means on the basis of a result detected by said in-focus detecting means (See Col. 4, lines 1-10).

Referring to claim 13, the Okauchi reference discloses further comprising image processing means which processes image data so that the image photographed by said image pickup medium becomes an erect image, irrespective of an orientation of said image pickup field (e.g., See Col. 6, lines 58-62, the four divided images is reproduced and synthesized to a single original image, and this can be considered as the images becomes an erect image, irrespective of an orientation of said image pickup field).

Referring to claim 15, the Okauchi reference discloses an apparatus (an image pickup apparatus) comprising an image pickup unit comprising a unit according to Claim 1 as shown in Figure 1.

Claim Rejections - 35 USC § 103

Art Unit: 2612

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okauchi et al. U.S. Patent 5,907,353 in view of Sinclair et al. U.S. Publication 2001/0043264.

Referring to claims 2, the Okauchi reference discloses all subject matter as discussed in respected claim 1, and a stop (iris 24) is disposed in said optical system. However, the reference does not explicitly show that the stop (aperture or iris) can be disposed on the object side of the optical system.

The Sinclair reference discloses in Figure 2, the digital camera has a stop (slit 28 and additional aperture 56) is positioned on the object side of the optical system (53) and front of lens 20 (See page 3, [0035] and [0043]). The Sinclair reference is evidence the one of ordinary skill in the art at the time to see more advantage for providing the stop in front of lenses with adjustable f-stop to allow for more sensitivity illumination, rang, depth or field, and on-the-fly exposure. For that reason, it would have been obvious to see the stop (aperture or iris) can be disposed on the object side of the optical system disclosed by Okauchi.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okauchi et al. U.S. Patent 5,907,353 in view of Nagaoka et al. U.S. Patent 5,973,850.

Referring to claim 3, the Okauchi reference discloses all subject matter as discussed in respected claim 1, and a stop (iris 24) is disposed in said optical system. However, the

Art Unit: 2612

reference does not explicitly show that an image through said stop is formed at a position on the side of the object nearer than that of said stop at a negative magnification, by a portion comprising the optical system.

The Nagaoka reference discloses in Figures 1 and 3-4, an image pickup device such as a CCD comprising an image through said stop is formed at a position on the side of the object nearer than that of said stop at a negative magnification (concave lens has concave surface on the image pickup side and convex surface on the object side), by a portion (first and second lens from object side) comprising the optical system (See Col 53, lines 29-50). The Nagaoka reference is evidence the one of ordinary skill in the art at the time to see more advantage for providing additional lens (e.g., concave lens) in front of the stop so that the system has more flexible option to vary the magnification between the image and the object. For that reason, it would have been obvious to see an image through said stop is formed at a position on the side of the object nearer than that of said stop at a negative magnification, by a portion comprising the optical system disclosed by Okauchi.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okauchi et al. U.S. Patent 5,907,353 in view of Kikuchi U.S. Patent 5,838,374.

Referring to claim 9, the Okauchi reference discloses all subject matter as discussed in respected claim 1, and a CCD driving circuit (34). However, the reference does not explicitly show that the drive which moves said image pickup medium to perform focusing.

The Kikuchi reference discloses in Figure 1, an automatic focus adjustment device (100) providing a driving signal VD to move CCD (2) to the in-focus position (See Col. 8, lines 31-50). The Kikuchi reference is evidence the one of ordinary skill in the art at the time to see

Art Unit: 2612

more advantage for providing a driving circuit to move image pickup sensor to the in-focus position so that the camera system can have more flexible option to obtain a quick and stable in-focus operation without only depend on adjusting focus lens position. For that reason, it would have been obvious to see an image pickup apparatus has a drive which moves said image pickup medium to perform focusing disclosed by Okauchi.

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okauchi et al. U.S. Patent 5,907,353 in view of Mori et al. U.S. Patent 5,455,685.

Referring to claims 14 and 16, the Okauchi reference discloses all subject matter as discussed in respected claim 1, except the reference does not explicitly show exposure correcting means on the basis of a result detected by the light measuring means.

The Mori reference discloses an image pickup apparatus including a exposure control device for measuring a brightness (luminance) of the object to be photographed; and exposure correcting based on the light measuring data (See Col. 4, lines 55-61). The Mori reference is evidence the one of ordinary skill in the art at the time to see more advantage for providing a exposure control device to output a exposure correcting signal based on the light measuring means so that an extreme amount of over an under exposure of a main subject can be prevented and significantly improving the quality of image. For that reason, it would have been obvious to see the system has a exposure control for exposure correcting means on the basis of a result detected by the light measuring means disclosed by Okauchi.

9. Claims 14,16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okauchi et al. U.S. Patent 5,907,353 in view of Hayashi et al. U.S. Publication 2002/0176017.

Referring to claims 14 and 16, the Okauchi reference discloses all subject matter as discussed in respected claim 1, except the reference does not explicitly show that a driver which drives the reflecting member, the portion comprising said optical system and the image pickup medium to change an orientation of an image pickup field of said image pickup medium.

The Hayashi reference discloses in Figures 1-2, an image pickup unit comprising: an image pickup medium (10c), a reflecting member (10b), a portion comprising optical system (10a) disposed on a side of the object nearer than that of said reflecting member is reflected member (10b) is reflected and is made incident to said portion; a driver (scanning mechanism portion 11) drives said reflecting member and portion and image pickup medium to change an orientation of an image pickup field of said image pickup medium as shown in Figure 2 (See [0032]); and reflecting member drive means (17a) which drives said reflecting member (10b). The Hayashi reference is evidence the one of ordinary skill in the art at the time to see more advantage for providing a driver for freely rotating the reflecting member, the portion comprising said optical system and the image pickup medium to change an orientation of an image pickup field of said image pickup medium so that can obtain a clear view image over a wide view to realize highly reliable search with high precision. For that reason, it would have been obvious to see a driver which drives the reflecting member, the portion comprising said optical system and the image pickup medium to change an orientation of an image pickup field of said image pickup medium disclosed by Okauchi.

Referring to claim 18, the Okauchi, Hayashi reference discloses all subject matter as discussed with respected to same comment as with claims 15-16.

Art Unit: 2612

10. Claim 17 is rejected under 35 U.S.C.- 103(a) as being unpatentable over Okauchi et al. U.S. Patent 5,907,353 in view of Hayashi et al. U.S. Publication 2002/0176017 and Sinclair et al. U.S. Publication 2001/0043264.

Referring to claim 17, the Okauchi, Hayashi and Sinclair reference discloses all subject matter as discussed with respected to same comment as with claims 1-2 and 16.

Allowable Subject Matter

11. Claims 4-5 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Referring to claims 4-5, the prior art does not teach or fairly suggest a optical system including the portion comprising the optical system at the position on the side of the object nearer than that of said stop comprises, on a surface of a transparent body, (i) an optical element having an incident refracting surface, (ii) an emitting refracting surface, and (iii) a plurality of reflecting surfaces to which light incident in said transparent body from said incident refracting surface is repetitively reflected and is emitted from said emitting refracting surface.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Lin Ye** whose telephone number is **(703) 305-3250**. If attempts to

Art Unit: 2612

reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R

Garber can be reached on (703) 305-4929.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC. 20231


Or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal drive,

Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Lin Ye
March 8, 2004